

IN THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application.

1. (Currently amended) A process for producing inositol from plant materials, comprising the steps of:

providing a plant material comprising at least one of a phytate and a phytin;

said plant material also comprising a neutral soluble sugar;

(a) providing an aqueous slurry of said plant material;

said aqueous slurry comprising said at least one of a phytate and a phytin of said plant material, as well as said neutral soluble sugar of said plant material;

treating an said aqueous slurry of plant material containing a mixture of neutral sugars comprising at least one of monosaccharides, disaccharides, and trisaccharides; with a an enzyme product enriched in phytase enzyme;

conducting a partial hydrolysis to partially hydrolyze of said at least one of a phytate, phytic acid and a phytin to produce a partially hydrolyzed slurry comprising a mixture of inositol phosphates that which are negatively charged, and wherein said plant material is a main source of the phytate and/or phytin which is partially hydrolyzed during said step of conducting a partial hydrolysis under conditions which do not promote full hydrolysis to inositol;

(b) separating said partially hydrolyzed slurry into to produce a water soluble fraction and a water-insoluble fraction, said water soluble fraction comprising inositol phosphates which are negatively charged, as well said neutral soluble sugar of said plant material;

(c) separating said water soluble fraction into a first ionic fraction which contains anionic components comprising inositol phosphates which are negatively charged and a first other neutral fraction which contains comprising said neutral fractions containing said mixture of neutral soluble sugar of said plant material sugars comprising at least one of monosaccharides, disaccharides, and trisaccharides;

(d) hydrolysing conducting a hydrolysis of said the inositol phosphates in of said first

ionic fraction to produce inositol and an anionic fraction; and

(e) separating said inositol from said anionic fraction—a hydrolyzed first ionic fraction and a second neutral fraction which contains inositol.

2. (Currently amended) The process of claim 1, wherein said enzyme product ~~phytase enzyme in step (a)~~ does not include an acid phosphatase.
3. (Original) The process of claim 1 wherein said step of treating the aqueous slurry is carried out at a pH between about 3.0 and about 7.0.
4. (Currently amended) The process of claim 3, wherein said ~~phytase enzyme product in step (a)~~ includes comprises an acid phosphatase.
5. (Currently amended) The process of claim 1, wherein said step of separating the partially hydrolyzed slurry into a water-soluble fraction and an insoluble fraction is carried out by centrifugation.
6. (Currently amended) The process of claim 1, wherein said step of separating the partially hydrolyzed slurry into a water-soluble fraction and an insoluble fraction is carried out by filtration.
7. (Currently amended) The process of claim 1, in which the step of hydrolyzing conducting a hydrolysis of said the inositol phosphates in of said first ionic fraction comprises ~~treatment~~ treating of said first ionic fraction with a phytase.
8. (Currently amended) The process of claim 1, in which the step of hydrolyzing conducting a hydrolysis of said the inositol phosphates in of said first ionic fraction comprises ~~treatment~~ treating of said first ionic fraction with an acid phosphatase.
9. (Currently amended) The process of claim 8, wherein said step of hydrolyzing conducting a hydrolysis is carried out at a pH of less than 4.

10.-11. Canceled.

12. (Currently amended) The process of claim 3, in which the step of conducting a hydrolysis of said ~~hydrolyzing the~~ inositol phosphates in said first ionic fraction comprises treating ~~treatment of~~ said first ionic fraction with a phytase.

13. (Currently amended) The process of claim 3, in which the step of conducting a hydrolysis of said ~~hydrolyzing the~~ inositol phosphates in said first ionic fraction comprises treating ~~treatment of~~ said first ionic fraction with acid phosphatase.

14. (Currently amended) The process of claim 13, wherein said step of conducting a hydrolysis is carried out at a pH of less than 4.

15.-16. Canceled

17. (Currently amended) The process of claim 4, in which the step of conducting a hydrolysis of said ~~hydrolyzing the~~ inositol phosphates in said first ionic fraction comprises treating ~~treatment of~~ said first ionic fraction with acid phosphatase, and wherein said hydrolysis is carried out at a pH of less than 4.

18.-20. Canceled.

21. (New) The process of claim 1, wherein the step of conducting a hydrolysis of inositol phosphates of said first ionic fraction further comprises the step of adding acid phosphatase.

22. (New) The process of claim 1, wherein the step of conducting a hydrolysis of inositol phosphates of said first ionic fraction is achieved free of enzyme based catalysis.

23. (New) The process of claim 1, further comprising the step of producing a product comprising said inositol.